Divya Sri Thumu

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EDUCATION

University of Illinois Urbana-Champaign **Urbana-Champaign, Illinois**
B.S. in Computer Science and Bioengineering *Expected Graduation, May 2027*
Cancer Scholar under the Cancer Center at Illinois (CCIL)

- **Related Coursework:** *CS 225: Data Structures, MATH 257: Linear Algebra with Computational Applications, STAT 400: Statistics and Probability I, CS 222: Software Design Lab, MATH 285: Intro Differential Equations*
- **GPA:** 3.92/4.00

SKILLS

Certifications (Completed/Ongoing): Machine Learning in Python through IBM, Introduction to Deep Learning & Neural Networks with Keras through IBM, Machine Learning Models in Science
Programming: Java, Python (PyTorch, Scikit-Learn, Tensorflow, GeoPandas, NumPy, Pandas), SQL
Tools: Android Studio, Anaconda, Eclipse, Jupyter Notebooks, Git, RStudio, Oracle

EXPERIENCE

Argonne National Laboratory Research under Mrs. Sara Forrester **Lemont, Illinois**
16S rRNA Sequencing & Analysis of Soil Microbial Communities | Role: Lead Researcher *Aug 2023 – May 2024*

- Created a total of 100 soil samples of varying molarities (0.1, 1, 10M) and chemical exposure (Ex: Gamma Cyhalothrin, Malathion, Atrazine, Fipronil, and Urea)
- Extracted DNA from each soil sample using the DNeasy PowerSoil Pro Kit
- Obtained the genomic data of each soil samples' microbial community and determined variances in the bacterial compositions/concentrations within each sample using 16S rRNA Sequencing
- Constructed numerous comprehensive bar graph models and portrayed the variances in bacterial compositions of the microbial communities using the R programming language through RStudio
- Presented a comprehensive poster of our summarized findings at the annual Argonne Poster Session

Argonne National Laboratory Research under Dr. Narayanasami Sukumar **Lemont, Illinois**
Protein Crystallography and Bioinformatics | Role: Researcher *Aug 2022 – May 2023*

- Obtained data of the atomic structure of type-I copper proteins using the Advanced Photon Source
- Analyzed 3D models of type-I copper protein structures using the application CCP4MG and the software COOT
- Programmed in Python and Java to optimize data analysis (cut down analysis time from days to minutes)
- Utilized the Protein Data Bank (PDB) and learned the process of adding the obtained data to the PDB

PROJECTS

Predicting The Hardship Index of Chicago Communities
Independent Project *Jun 2024-Present*

- Skills: PyTorch, Pandas, Linear Regression, classification models (Ex: KNN), GeoPandas, Matplotlib, Scikit-Learn
- Analyzed data files of available public services (crime rates, # of businesses, schools, hospitals, etc.) and socioeconomic status (average income, population, hardship index, etc.) within Chicago from the Chicago Data Portal
- Trained and tested a Linear and Lasso Regression model to determine the correlation values between the public services and the hardship index
- Implementing a neural network to improve the predictive model and improve community wellness

ACTIVITIES

Illinois Medical Advancements Through Design and Engineering **Urbana-Champaign, Illinois**
Project Engineer *Aug 2024 – Present*

- Developing a mobile app using Figma and React Native to optimize patient-doctor communication for our client, Treehouse Pediatric

Data Science Club **Urbana-Champaign, Illinois**
Project Lead *Aug 2024 – Present*

- Collaborating with the Data Dive Team to lead a semester long project and provide mentorship to club members seeking assistance with their project

Women in Engineering (WIE) **Urbana-Champaign, Illinois**
WIE Ambassador *Aug 2024 – Present*

- Directing recruitment and outreach activities for prospective and admitted students in Grainger Engineering